

completely seated so the circlip can be installed above it.

8. Install the circlip and make sure it is completely seated in the groove.

9. Install the bearing dust seal into the frame receptacle.

### Installation

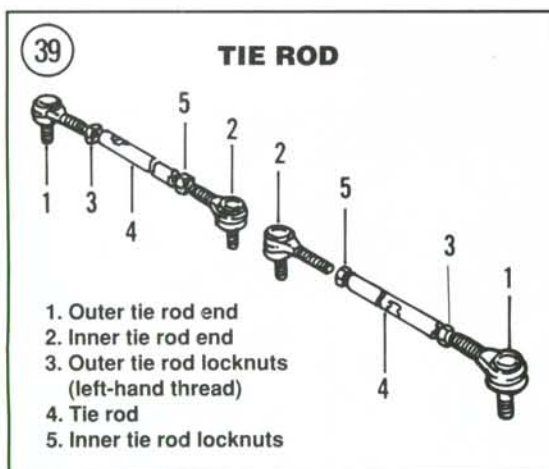
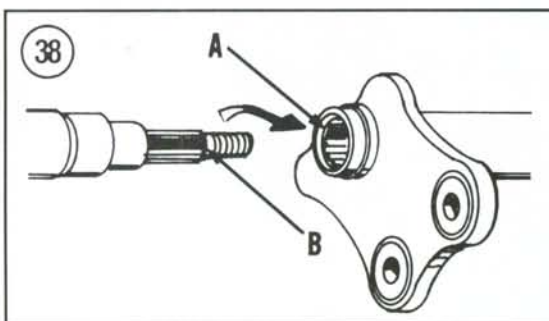
1. Apply a coat of grease to the steering shaft where it fits into the bearing.

2. Apply a coat of grease to the steering shaft bushing cavities. Install the bushing onto the shaft with the UP mark facing up toward the handlebar.

3. Install the steering shaft into the frame.

4. Install the steering shaft holder over the bushing and install the bolts. Tighten the bolts to the torque specification listed in **Table 1**.

5. On 4-wheel drive and 1993-on 2-wheel drive models, align the wide tooth on the steering arm splines with the wide cut-out on the steering shaft splines (**Figure 38**) and install the steering arm onto the base of the steering shaft.



6A. On 1988-1992 2-wheel drive models, install the steering shaft nut and tighten to the torque specification listed in **Table 1**.

6B. On 4-wheel drive and 1993-on 2-wheel drive models, install the steering shaft thrust washer. Apply grease to the nut flange and threads. Install the nut and tighten to the torque specification listed in **Table 1**.

7. Install a new cotter pin and bend the ends over completely. Never install a used cotter pin as it may break and fall out.

8. Connect both tie rods (**Figure 37**) onto the steering shaft lower end as described in this chapter.

9. Install the handlebar assembly onto the steering shaft.

### CAUTION

*See the CAUTION at the beginning of this chapter relating to the use of self-locking nuts.*

10. Install *new* lower nuts securing the handlebar lower holders. Tighten the nuts to the torque specification listed in **Table 1**.

11. Install both front wheels as described in this chapter.

12. On 2-wheel drive models, install the inner fender panels.

13. Install the front fender and seat as described in Chapter Thirteen.

14. Check the toe-in of the front wheels as described in Chapter Three.

### TIE ROD

#### Removal

Both tie rod assemblies are the same. Refer to **Figure 39** for this procedure.

#### NOTE

*In this procedure where reference is made to "On 4-wheel drive and 1993-on 2-wheel drive models," the 4-wheel drive model is shown in the photographs. The only major difference is the presence of the front drive axle and other minor items that are unique to the 4-wheel drive system. Where differences occur that relate to the procedure, they are identified.*

1. Place the vehicle on level ground and set the parking brake. Block the rear wheels so the vehicle will not roll in either direction.
2. Remove both front wheels as described in this chapter.
3. Remove the front brake panel assembly as described in Chapter Twelve.

#### CAUTION

*See the CAUTION at the beginning of this chapter relating to the use of self-locking nuts.*

#### CAUTION

*Use a wrench on the tie rod ball joint to keep it from turning while loosening the tie rod self-locking nut.*

4A. On 1988-1992 2-wheel drive models, perform the following:

- a. Remove the cotter pin and the self-locking nut (A, **Figure 40**) securing the tie rod end to the steering knuckle.
- b. Discard the cotter pin and nut, as a new nut and pin must be installed.

4B. On 4-wheel drive and 1993-on 2-wheel drive models, perform the following:

- a. Remove the cotter pin and the self-locking nut (A, **Figure 41**) securing the tie rod end to the steering knuckle.
- b. Discard the cotter pin and nut, as a new nut and pin must be installed.

#### CAUTION

*If the tie rod is difficult to remove from the steering knuckle, do not attempt to pry it out as the tie rod seal may be damaged.*

5. Carefully disconnect the tie rod from the steering knuckle. Refer to B, **Figure 40** for 1988-1992 2-wheel drive models, or B, **Figure 41** for 4-wheel drive and 1993-on 2-wheel drive models. If the tie end is difficult to remove, install the nut just enough to cover the tie rod end threads and tap the tie rod end out of the steering knuckle with a soft-faced mallet.

6. Remove the cotter pin and castellated nut (**Figure 37**) securing the tie rod end to the steering shaft end. Discard the cotter pin as a new pin must be installed.

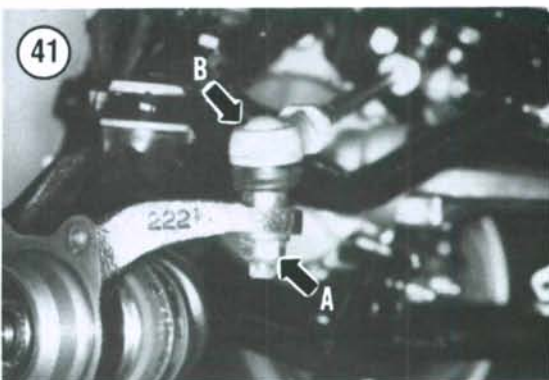
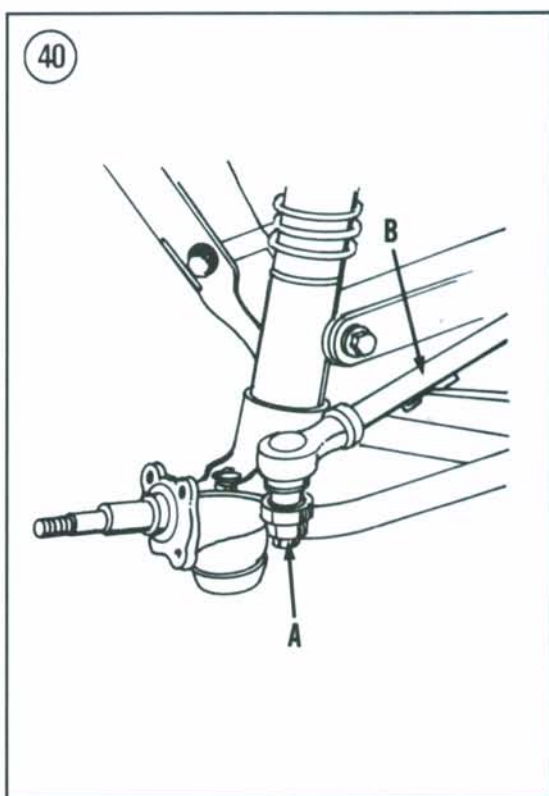
7. Carefully disconnect the tie rod (**Figure 42**) from the steering shaft end and remove the tie rod assembly.

If the tie rod is difficult to remove, use the procedure in Step 5 for this end of the tie rod.

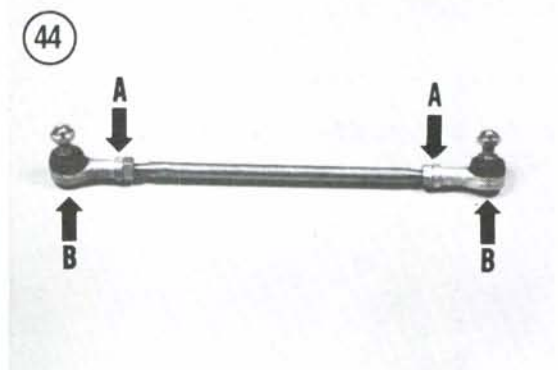
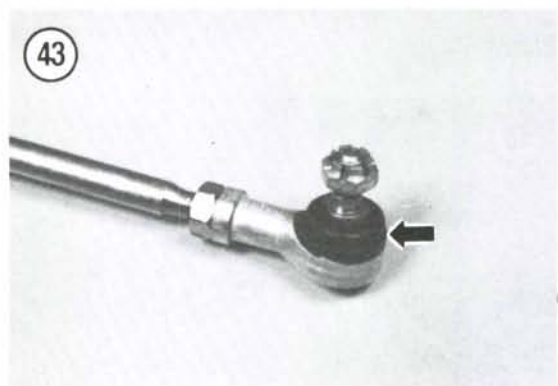
8. If necessary, repeat Steps 3-6 for the other tie rod.

### Inspection/Disassembly/Assembly

1. Inspect the rubber boot at each end of the tie rod end swivel joint (**Figure 43**). The swivel joints are permanently packed with grease. If the rubber boot is damaged, dirt and moisture can enter the swivel joint and destroy it. If the boot is damaged in any







way; disassemble the tie rod assembly and replace the rod end(s) as they can be replaced separately.

2. If the tie rod ends (swivel joint) are to be replaced, refer to **Figure 43** and perform the following:

- Loosen the locknuts (A, **Figure 44**) securing the tie rod ends. The locknut securing the outside tie rod end has *left-hand* threads.
- Unscrew the damaged tie rod end(s) (B, **Figure 44**).
- The inner tie rod is marked with an "L" (**Figure 45**). Install this tie rod end onto the end of the tie rod *without* the flat on it. This tie rod has a silver colored nut.
- Install the new tie rod end and turn it in until the groove (interrupted thread) in the tie rod threads enters the tie rod end.
- Screw the locknuts up against the tie rod end but do not tighten at this time. They will be tightened after the wheel alignment is adjusted.
- Repeat for the other tie rod end if necessary. This tie rod has a gold colored nut.

3A. On 1988-1992 2-wheel drive models, set the tie rod end facing in the same direction.

3B. On 4-wheel drive and 1993-on 2-wheel drive models, set the tie rod ends 180° from each other.

4. Set the distance between the tie rod centers to the dimension listed in **Table 3**.

5. The maximum amount of thread exposure is 12 mm (0.50 in.).

6. Tighten the tie rod locknuts securely.

### Installation

1. Position the tie rod assembly so the end with the flat on the shaft (**Figure 46**) is attached to the steering knuckle.

### CAUTION

*See the CAUTION at the beginning of this chapter relating to the use of self-locking nuts.*

2. Attach the tie rod assembly to the steering shaft and to the steering knuckle. Install the *new* self-locking nuts and tighten to the torque specification listed in **Table 1**.

3. Install a new cotter pin at each location and bend the ends over completely.

4. Install the front brake panel assembly as described in Chapter Twelve.

5. Install both front wheels as described in this chapter.
6. Align the toe-in adjustment of the front wheels as described in Chapter Three.
7. Tighten the tie rod end locknuts to the torque specification listed in **Table 1**.
8. Install the front fender as described in Chapter Thirteen.

### STEERING KNUCKLE (1988-1992 2-WHEEL DRIVE)

#### Removal/Installation

Refer to **Figure 47** for this procedure.

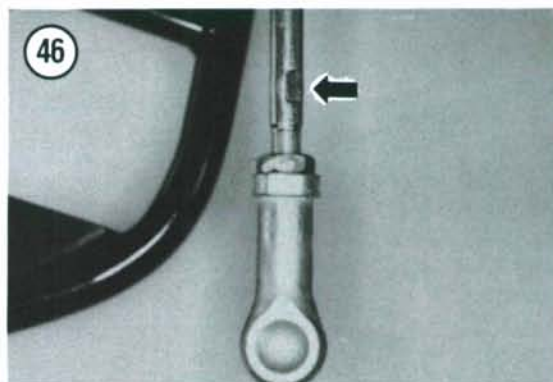
1. Place the vehicle on level ground and set the parking brake. Block the rear wheels so the vehicle will not roll in either direction.
2. Remove the front wheels as described in this chapter.
3. Remove the front fender as described in Chapter Thirteen.

#### NOTE

*It is not necessary to disconnect the hydraulic brake hose from the brake*

*panel. Move the brake panel out of the way and support it with a piece of wire to take the weight off the brake hose.*

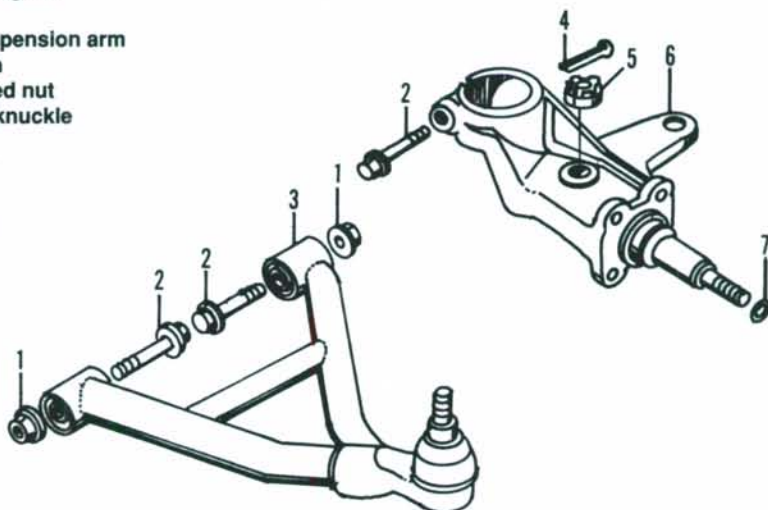
4. Remove the front brake drum, brake hose and brake panel as described in Chapter Twelve.
5. Disconnect the outer end of the tie rod from the steering knuckle as described in this chapter.
6. Remove the cotter pin (A, **Figure 48**) and castellated nut (B, **Figure 48**) securing the ball joint to the steering knuckle.
7. Remove the shock absorber lower pinch bolt (C, **Figure 48**).



47

### STEERING KNUCKLE AND FRONT SUSPENSION ARM (1988-1992 2-WHEEL DRIVE)

1. Self-locking nut
2. Bolt
3. Front suspension arm
4. Cotter pin
5. Castellated nut
6. Steering knuckle
7. O-ring



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